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MOBILE TURRET SYSTEM CONNECTED TO VIRTUAL TURRET SYSTEM BY REMOTE COMPUTING

BACKGROUND OF THE INVENTION



1. Field of the Invention (TECHNICAL FIELD)

The present invention relates to a mobile turret system applied to a dealing communication system to be used for performing a financial transaction in a financial institution such as a bank, a securities company and the like. Describing in more detail, the present invention relates to a mobile turret system which connects itself by remote computing to a communication terminal primarily composed of a general purpose personal computer introduced in recent years (communication stand; hereinafter referred to as a virtual turret), and controls an operation system of the virtual turret and a voice system of a CTI (computer telephony integration) device.

2. Related Art (BACKGROUND ART)

Up to now, a mobile turret system has been used as communication terminal equipment in a dealing communication system, for example. Such communication terminal equipment in a dealing communication system has used dedicated communication terminal equipment and dedicated operating software.

However, a mobile turret system shown in the above-mentioned conventional example brings a problem that it is not possible to harmonize and make the respective communication terminals cooperate with one another by means of connection by remote computing which is a feature of it, and to provide to a user an environment which makes the user feel as if he/she is seated at a communication terminal equipment when he/she is distant from the communication terminal equipment.

An object of the present invention is to provide a mobile turret system to provide such an environment of higher fidelity that makes a user feel as if he/she operates and converses as being actually seated at a virtual turret.

SUMMARY OF THE INVENTION (DISCLOSURE OF THE INVENTION)

In order to attain such an object, a mobile turret system of the present invention is characterized by connecting a virtual turret side primarily composed of a general purpose personal computer and a mobile turret side composed of a computer other than the virtual turret in a dealing communication system to each other by means of remote computing, and controlling the virtual turret so as to make a user feel as if he/she operates as being actually seated at the virtual turret by operating the mobile turret.

And the above-mentioned connection by remote computing may adopt a method comprising either one of a telephone line connection, a network connection and a cable connection.

Further, the above-mentioned mobile turret system may perform control of a virtual turret (operation system) and/or control of a CTI device (voice system) by means of connection and control by remote computing.

According to a mobile turret system of the present invention, it is possible to perform operation of a control system of a virtual turret and control of a voice system of a CTI device from a mobile turret system by using a general purpose operating software on the virtual turret composed on the basis of a general purpose personal computer and using connection by remote computing and mobile computing, by a fact that the virtual turret side and the mobile turret side are connected to each other by remote computing.

Therefore, it is possible to provide to a mobile turret system user an environment, which makes the user feel as if he/she operates and converses as being seated at a virtual turret.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows a composition example of a mobile turret system (telephone line connection) remote computing system which an embodiment of a mobile turret system of the present invention is applied to.

Figure 2 shows a composition example of a mobile turret system (telephone line connection) remote computing-virtual turret system.

Figure 3 shows a composition example of a mobile turret system (telephone line connection) remote computing mobile turret system.

Figure 4 shows a composition example of a mobile turret system (network connection) remote computing system.

Figure 5 shows a composition example of a mobile turret system (cable connection) remote computing system.

Figure 6 shows a virtual turret idling screen.

Figure 7 shows a mobile turret system flow chart 1.

Figure 8 shows a mobile turret remote computing system initiating screen.

Figure 9 shows a mobile turret virtual turret remote computing connection screen.

Figure 10 shows a mobile turret voice line connection screen.

Figure 11 shows a mobile turret virtual turret specifying communication screen.

Figure 12 shows a mobile turret virtual turret TEN-KEY communication screen.

Figure 13 shows a mobile turret system flow chart 2.

Figure 14 shows a mobile turret system flow chart 3.

Figure 15 shows a mobile turret system communication end screen.

Figure 16 shows a mobile turret system remote computing end screen.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS (BEST MODE FOR CARRYING OUT THE INVENTION)

An embodiment of a mobile turret system according to the present invention is described in detail with reference to the accompanying drawings in the following. Referring to Figure 1, an embodiment of a mobile turret system of the present invention is shown.

Figure 1 shows a composition example of a mobile turret system (telephone line connection) remote computing system, Figure 2 shows a composition example of a mobile turret system (telephone line connection) remote computing virtual turret, Figure 3 shows a composition example of a mobile turret system (telephone line connection) remote computing mobile turret, Figure 4 shows a composition example of a mobile turret system (network connection) remote computing system, and Figure 5 shows a composition example of a mobile turret system (cable connection) remote computing system.

A mobile turret system, as shown in Figures 1, 4 and 5, is a system in which a virtual turret side 1 composed of a host computer and a mobile turret side 2 composed of another computer of a client are connected to each other by means of remote computing. This system can make a client perform a control combined with a voice communication from a mobile

P-1106.
5/7/04

turret so that he/she feels as if he/she is seated at and operates actually a host computer 11 as its applicable virtual turret.

As shown in Figures 1, 4 and 5, as a connection method for performing a remote computing operation, there are a telephone line connection, a network connection, a cable connection and the like. A method for using as a composition example a mobile turret system using a voice communication, connected by remote computing by means of a telephone line connection, which is called a public network 3, as shown in Figures 1, 2 and 3 is described. First, a composition example of each component of a mobile turret system and conditions for using it are described below.

(Composition example of a mobile turret system-virtual turret system)

A virtual turret is communication terminal equipment (simply called a “communication stand” also) of a dealing communication system used for performing a financial transaction in a financial institution such as a bank, a securities company and the like, as described above. The virtual turret is typically a communication stand of a dealing system based on a general purpose personal computer and a general purpose operating system.

An LCU (line control unit) to control this virtual turret is a line control unit. A virtual turret and an LCU are connected to each other through a dealing communication stand line circuit (connection C in Figure 1). Beyond the LCU, which is a line control unit (connection D in Figure 1), it is connected to the opposite party through various lines such as a public network, a PBX station, a broker line, a hot line and the like. An example of requirements for a more concrete composition of a virtual turret based on Figures 1 and 2 is enumerated in the following.

* A general purpose personal computer is used.

* An environment in which a modem is connected and operable is composed.

* An environment in which a dealing communication stand application device forming a virtual turret and a dealing communication stand application software is provided and are operable is composed.

* An environment in which a CTI application device is provided and is operable is composed. The CTI application device is provided with a keyboard having a telephone function built in it and connects connection A, a handset A and line C to one another (see Figure 1). And a virtual turret is provided with CTI application software, and the virtual turret and the CTI application device operate in conjunction with each other.

* An environment in which a general purpose remote computing application software is provided and can operate in a host state on the virtual turret is composed.

* An environment in which a mouse or a device corresponding to it is operable is composed.

* Two telephone lines are used (lines C and D in Figure 1).

Two telephone lines are used as a mobile turret system virtual turret. In detail, the two lines are a circuit for performing a remote computing operation from a virtual turret through a modem, and a circuit for connecting to a CTI application device and performing a voice communication.

An example of composition requirements for a mobile turret system mobile turret based on Figures 1 and 3 is enumerated in the following.

* A general purpose notebook-sized personal computer is used.

- * An environment in which a modem is connected and operable is composed.
- * An environment in which a general purpose remote computing application software is installed and can operate in a client state is composed.
- * An environment in which a mouse or a device corresponding to it is operable is composed.
- * A general purpose telephone is used.
- * Two telephone lines are used (lines A and B in Figure 1).

Two telephone lines are used as a mobile turret system mobile turret. In detail, the two lines are a circuit for performing a remote computing operation by means of connection through a modem from a mobile turret, and a circuit for connecting to a CTI application device and performing a voice communication.

How to use a mobile turret system is described. First, it is confirmed that a virtual turret is in the following state.

- * A virtual turret idles in an operable state.
- * A remote computing application idles in a host state on a screen of a virtual turret.
- * A CTI application device and CTI application software idle in an operable state.

The display of a virtual turret in the above-mentioned initial state has a screen composition as shown in a virtual turret idling screen of Figure 6.

A mobile turret system flow chart 1 is described with reference to Figure 7.

In step S1, a remote computing application is initiated in a client state on a mobile turret. In this case, a virtual turret is set as a host and a mobile turret is set as a client as shown in a mobile turret system remote computing initiation screen of Figure 8.

In step S2, a user accesses from the mobile turret the remote computing application waiting for a host state on the virtual turret. For this, as shown in Figure 8, the user displays a (client) remote computing application telephone number input window, inputs a telephone number for connecting line D, modem B and the virtual turret to one another shown in Figure 1, using a mouse and keyboard of the mobile turret, and then clicks the OK button by the mouse. In case of performing a wrong input, the user clicks the CANCEL (cancel) button and performs the above input operation again.

In step S3, a virtual turret screen is displayed on the mobile turret like a mobile turret virtual turret remote computing connection screen shown in Figure 9. This state shows a state where modem A, line B, a public network, a PBX, line D and modem B are connected to one another in Figure 1, and operation by a remote computing connection is possible.

In step S4, the user dials the telephone number of a CTI application device through a telephone of Figure 1. As the result, a voice path from the telephone through line A, the public network, the PBX, line C, the CTI application device and connection A to the handset A comes into a connection state in Figure 1.

In step S5, in case that the line of a CTI application device has been specified in advance on a virtual turret, for example, in case of a CTI (CTI application device line specification) key, a called state indicator is lighted up and a CTI application window is displayed. Figure 10 shows a mobile turret voice line connection screen as a reference example.

In step S6, referring to Figure 10, "Connection't in the CTI application window is clicked. As the result of this operation, a voice path from the telephone through line A, the public network, the PBX, line C, the CTI application device and connection A to the handset A comes into a connection state in Figure 1.

Steps S7 and S8 are performed referring to a mobile turret virtual turret specified communication screen of Figure 11. First, in step S7, in case that the opposite parties beyond the virtual turret (handset B, virtual turret, connection C, LCU and connection D in Figure 1) are specified in advance by buttons A to F (Yes in step S7), the button corresponding to a relevant opposite party is clicked in step S8.

Further, steps S7 to S9 are performed referring to a mobile turret virtual turret TEN-KEY communication screen of Figure 12. In case that the opposite parties beyond the virtual turret (handset B, virtual turret, connection C, LCU and connection D in Figure 1) are not specified (No in step S7), in step S9 the TEN-KEY window is displayed by clicking the TEN-KEY button in the virtual turret window, and a relevant telephone number is inputted.

In step S10, by the operations of the above-described steps S7 to S8 and steps S7 to S9, the telephone, line A, the public network, the PBX, line C, the CTI application device, connection A, handset A, handset B, connection B, the virtual turret, connection C, the LCU and connection D in Figure 1 are connected to one another, and it becomes possible to communicate with the opposite party from the mobile turret telephone through the virtual turret.

(Method in case of changing an opposite party beyond the virtual turret)

A mobile turret system flow chart 2 shown in Figure 13 is described in the following.

In step S11, after end of communication the RLS key in the virtual turret screen (see Figure 11) is clicked. This operation releases a voice connection of handset B, connection B, the virtual turret, connection C, the LCU, connection D and the like.

In steps S12 to S13, in case that the opposite party which the user intends to next communicate with is specified by one of the specifying buttons of the mobile turret (buttons A to F in Figure 11), the button corresponding to the relevant opposite party is clicked.

In steps S12 to S14, in case that the next opposite party has not been specified, the number of the relevant opposite party is inputted in the TEN-KEY window displayed by clicking the TEN-KEY button in the mobile turret screen (see Figure 12).

In step S15, a communication path is connected with the opposite party beyond the virtual turret by the above operation. In case of repeating the communication, the above-described operations of steps S11 to S14 are repeated.

(Method in case that the virtual turret is called by an opposite party)

In case that the virtual turret is called, since the virtual turret performs a called indication (blinks a line key), clicking the blinking line key makes it possible to communicate with the opposite party. In order to end the communication, the communication is ended by clicking the RLS (release) key.

(Method in case of ending a communication and a remote computing operation)

In Figure 14, a mobile turret system flow chart 3 is described. A communication end operation is performed using a mobile turret communication end screen of Figure 15.

In step S21, a CTI application window is displayed.

In step S22, the Disconnection button in the CTI application window is clicked. The above operation ends the connection to the CTI application device (see Figure 1), and the connection between handset A, connection A, the CTI application device and line C is disconnected.

In the next step S23, the handset of the mobile turret side is off-hooked (see Figure 1), and the communication of the mobile turret is ended. A remote computing end operation is performed referring a mobile turret system computing end screen of Figure 16.

In step S24, a (client) remote computing window is displayed.

In step S25, the Disconnection button in the (client) remote computing window is clicked. The above operation disconnects the connection between the mobile turret, modem A, the public network, the PBX, line D, modem B and the virtual turret, and the remote computing operation is ended.

The advent of a virtual turret based on a general purpose personal computer and the mounting and driving of a general purpose operating software make it possible for a mobile turret system to perform operation of a control system of a virtual turret and control of a voice system of a CTI device by means of connection by remote computing. This makes it possible to provide to a user an environment in which the user can use a function of a virtual turret also in a mobile turret with the same feeling as a feeling which the user has when being seated at the virtual turret.

According to the above-mentioned embodiment, a connection by remote computing, said connection being optimal to an environment where a mobile turret is used, is selected from various kinds of connections by remote computing such as a telephone line connection,

a network connection (WAN or LAN connection), a cable connection and the like between a virtual turret and a mobile turret.

In case of a telephone line connection in a mobile turret system, it is possible to access a virtual turret from a remote site such as a user's home, the destination of its business trip or the like, and in case of a network connection, it is possible to access a virtual turret from a different floor in an environment such as an office and the like in which a network environment has been built.

Describing in more detail, a system is composed which provides to a user an environment which makes it possible for the user to use a mobile turret system with the same feeling as a feeling when being seated at a virtual turret when the user of the virtual turret of an office uses the mobile turret system at such a place distant from the virtual turret as the user's home, the destination of its business trip, a different floor and the like.

Therefore, the advent of a virtual turret based on a general-purpose personal computer and the mounting and driving of a general purpose operating software make it possible for a mobile turret system to perform operation of a control system of a virtual turret and control of a voice system of a CTI device by means of connection by remote computing. This makes it possible to provide to a use ran environment in which the user can use a function of a virtual turret also in a mobile turret with the same feeling as a feeling when being seated at the virtual turret.

The above-mentioned embodiment is one example of preferred embodiments of the present invention. The present invention is not limited to this, but various variations can be performed within the scope of the present invention without departing from the gist of the present invention.

As apparently known from the above description, in a mobile turret system of the present invention, a virtual turret side and a mobile turret side are connected to each other by remote computing.

Accordingly, by using a general purpose operating software on a virtual turret based on a general purpose personal computer, it is possible to perform operation of a control system of a virtual turret and control of a voice system of CTI device from a mobile turret system by means of connection by remote computing and mobile computing.

Therefore, it is possible to provide to a mobile turret system user an environment in which the user can feel as if he/she is actually performing operation and conversation being seated at a virtual turret.

Various kinds of connections by remote computing between a virtual turret and a mobile turret can include a telephone line connection, a network connection (WAN or LAN connection) and a cable connection, and it is possible to provide to a user a connection by remote computing, said connection being optimal to an environment where a mobile turret is used.

INDUSTRIAL APPLICABILITY

As described above, a mobile turret system according to the present invention is useful for a mobile turret system applied to a dealing communication system used for performing a financial transaction in a financial institution such as a bank, a securities company and the like, and is adaptive to providing an environment which makes it possible to give a user the same feeling of use as a feeling when being seated at a communication terminal when the user is distant from the communication terminal by attaining harmonious

combination and cooperation between the respective apparatuses by means of connection by remote computing which this mobile turret system is characterized by.